United States Department of Agriculture
Natural Resources Conservation Service

2011 Ranking Period 1

Plant Enhancement Activity – PLT03 – Forest stand improvement pre-treating vegetation and fuels

Credit: John D. Hodges, Mississippi State University, Bugwood.org

Enhancement Description
The purpose of this enhancement is to manage the vegetation and fuels in a forested area with mechanical/manual methods to facilitate future treatment with prescribed fire to restore native forest condition.

Land Use Applicability
Forestland

Benefits
Prescribed burning is a useful tool in the restoration and maintenance of native forest plant communities. Sometimes the application of this practice is prohibited by unsafe conditions caused by excessive amounts and types of fuel present on the site. The implementation of this enhancement will make it possible to safely conduct a controlled burn by mechanically treating this condition prior to a planned burn. Other benefits include reduced wildfire risk, improved access, improved wildlife habitat, and enhanced visual quality.

Criteria
Planning and implementation of this enhancement will be made in consultation with a professional trained in prescribed burning. To properly plan the pretreatment for a prescribed burn a thorough assessment of both the existing fuel load and the desired fuel load for a prescribed burn must be made. The following references are recommended to help make these determinations:

1. The degree of departure from reference condition vegetation, fuels and disturbance regimes using the *Fire Regime Fire Condition Class (FRCC) Guidebook*
2. The amount and distribution of live and dead fuels using the *Fire Fuel Protocol: Transect Measurements Field Guide*.

Implementation of this enhancement will require implementing one or more of the following measures.

1. Excessive volatile live vegetation – This measure is applicable when volatile, live grasses and shrubs are present in the area in excess of that needed to safely conduct a prescribed burn and/or that specified in the Prescribed Burning standard. Reduction of these fuels may be accomplished by shredding, cutting, chipping, mulching, crushing, scattering, removal from the site, or any combination of these methods. If this vegetation represents the primary fuel needed to carry a controlled burn in the area, the timing of this measure

will be important. Depending on the vegetation, time the reduction to allow for adequate re-growth to supply the amount and continuity needed. If invasive plants are present, utilize methods and timing that will prevent or control their spread. Refer to the Conservation Practice Standard, Prescribed Burning (338) for additional information.

2. Excessive debris and dead fuels – This measure is applicable when excessive amounts of debris and dead fuel exist in the forest. Remove the material from the area by, chipping, crushing, shredding, scattering, or any combination of these methods. The objective is to achieve the amount and continuity of fuels needed to safely implement a prescribed burn in accordance with a burning plan for the vegetation on site. Refer to the Conservation Practice Standard, Prescribed Burning (338) for additional information.
3. Closed canopy – This measure is applicable if the trees within the enhancement area form a continuous, closed canopy. Thinning will allow for heat escape and control of prescribed burns. Conduct thinning to space crowns at least 10 – 15 feet apart. Prune flammable limbs to a height of at least 10 feet. Remove slash from the area, scatter, or reduce in size by crushing, or chipping.
4. Ladder fuels – This measure is applicable if ladder fuels form connections between the ground and the higher levels of the canopy that can make it possible for a fire to spread into the upper canopy. Break the continuity of fuel between the ground and the upper canopy position by cutting or snagging. Complete removal is not required as long as the continuity is broken. If excessive amounts of slash are created, remove it from the area, scatter or reduce in size by crushing, or chipping.

Refer to Conservation Practice Standards Fuel Break (383), Firebreak (394), Forest Slash Treatment (384) and Prescribed Burning (338) for additional information on each of these activities.

Documentation Requirements

1. Brief written documentation detailing the pre-treatment conditions and the post-treatment conditions.
2. Representative digital images of the area showing before and after photos.